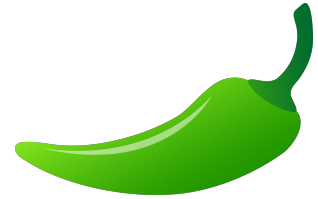


Leveled Problems



Do all work on a separate piece of paper. You must earn 14 checks by the end of class. Challenge yourself to not use your calculator unless absolutely necessary!

Mild

$7^{x+1} = 6$	$3^{2x-1} = 5$	$4 - e^{x-1} = 3$
$4(0.1)^x = 8$	$5(0.7)^{x+1} = 25$	$3^{2-x} = \frac{1}{81}$

Medium

$5(2)^{3x} - 4 = 13$	$10 - \frac{2}{3}6^{3x} = 2$	$20(100 - e^{\frac{x}{2}}) = 500$
$7 - e^{x-1} = 3$	$7^{1-x} = 4^{3x+1}$	$5^{x-2} = 4^{x-3}$

Hot

$9^x = \frac{3}{3^x}$	$\frac{8000}{1.03^x} = 6000$	$(1 + \frac{0.10}{12})^{12t} = 2$	Solve for k. $T = S + De^{-kt}$
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Spicy

$e^{2x} - 4e^x - 5 = 0$	$\frac{3000}{2+e^{2x}} = 2$	$x^2 2^x - 2^x = 0$	Solve for d. $y = \frac{a}{1+be^{-(x-c)/d}}$
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Solutions

Mild

$7^{x+1} = 6$ -0.079218	$3^{2x-1} = 5$ 1.23249	$4 - e^{x-1} = 3$ $x = 1$
$4(0.1)^x = 8$ -0.30103	$5(0.7)^{x+1} = 25$ -5.51234	 $X = 6$

Medium

$5(2)^{3x} - 4 = 13$.588512	$10 - \frac{2}{3}6^{3x} = 2$.462284	$20(100 - e^{\frac{x}{2}}) = 500$ 8.63598
$7 - e^{x-1} = 3$ 2.38629	$7^{1-x} = 4^{3x+1}$.09166	$5^{x-2} = 4^{x-3}$ -4.21256

Hot

$9^x = \frac{3}{3^x}$ $x = 1/3$	$\frac{8000}{1.03^x} = 6000$ $x = 9.73253$	 6.96031	Solve for k. $T = S + De^{-kt}$
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Spicy

$e^{2x} - 4e^x - 5 = 0$ $x = \ln 5$	$\frac{3000}{2 + e^{2x}} = 2$ $x = 3.65594$	 $X = \pm 1$	Solve for d. $y = \frac{a}{1 + be^{-(x-c)/d}}$
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